Yb. Heather Soc. 2002: 31–36.

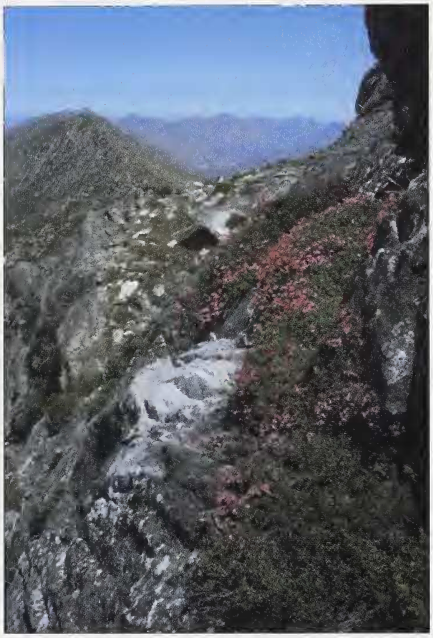
A new rock-loving species of *Erica* from the eastern Swartberg, South Africa

E. G. H. Oliver & I. M. Oliver
Compton Herbarium, National Botanical Institute, Private Bag X7, CLAREMONT 7735, South Africa.

Fig. 1. *Erica jugicola*. Close-up of flowers.

Most species of *Erica* are erect, single-stemmed, bushy shrublets or shrubs growing in open sandy/stony or peaty ground. In South Africa they can also grow in two very different habitats – in seeps and marshes or on cliffs and open rocks. This new species falls into the latter group since it grows mainly on rock ledges where it forms large dense cushions or mats sprawling over steep rock faces.

Erica jugicola occurs on the summit ridges of the Great Swartberg range, a long range of mountains forming the northern border of the Little Karoo,



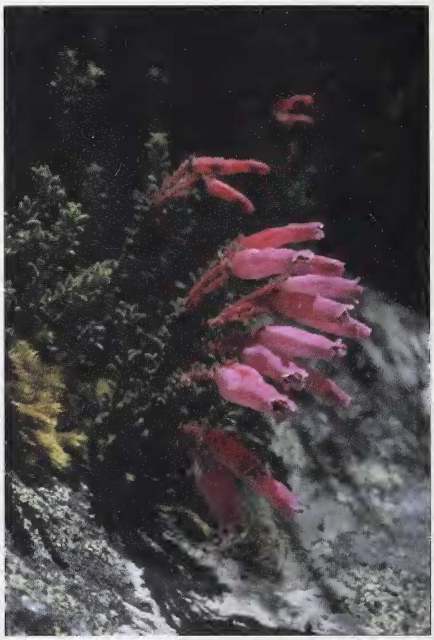


Fig. 2 (left). *Erica jugicola*. Several plants forming cushions on the south-facing slopes of Blesberg looking westwards with *E. lignosa* (pink smaller flowers) in the lower foreground.
Fig. 3. (right). *E. jugicola* growing from a rock crevice.

hence the name, *jugum* (= mountain ridge or height; also a yoke) and *–colus* (= inhabiting) (Fig. 2). It is common on the crest of the ridge around Blesberg where it grows on the southern side on the steep, dipping strata of sandstone. The habitat at 2000m above sea level is relatively cool compared to the dry summer heat of the lowlands. The clouds derived from the southeast trade-winds that can sometimes cover the summits during the hot Summer months produce a cool and moist environment. In Winter the environment is much harsher with strong winds and rain and frequent falls of snow.

The plants can form large mats or cushions to 600mm across and, when in full flower, provide a fine show (Fig. 1). When collecting the type material we were pleased to find the suspected pollinating agent hard at work – large long-tongued flies hovering around the flowers like hummingbirds. They were also seen visiting other ericas in the area such as the very similar *E. lignosa* H. A. Baker and *E. albens* L.

Erica jugicola is most like a group of species which share a similar indumentum on the stems, leaves and flowers – *Erica lignosa*, 41 *E. valida* H. A. Baker, and *E. oresigena* Bolus. The last species grows only in the Cold Bokkeveld and Cederberg mountains several hundred kilometres to the west whilst *E. lignosa* grows sympatrically with the new species and *E. valida* occurs on the nearby Kammanassie Mountains. However, they all differ from it in their 4-nate leaves (not 3-nate) and the structure of the seeds.

In *E. jugicola* the seeds are distinctive for their many faceted shape which is rare in the genus. The testa cells are elongate, mostly smooth walled and have no pits. Most species of *Erica* have rounded, ovoid to ellipsoid seeds which are distinctly alveolate with the testa cells subequal in shape with jigsawed anticlinal walls and very pitted inner periclinal walls.

In *E. jugicola* the ovary is apically rounded and glabrous whereas in the other species it is emarginate and in *E. lignosa* and *E. valida* puberulous to shortly villous. Both of the latter species have similar anthers but with much shorter, broader appendages. In *E. valida* the anther pores are relatively longer. *E. valida* has almost equally sized flowers whereas those of *E. lignosa* are much smaller (± 5mm long) and urceolate.

Erica lignosa is identical in habit and habitat preferences to *E. jugicola*. It also forms compact mats hanging down from rock ledges and in the Blesberg area in a few instances admixed (Fig. 2). No signs of any hybrids were noted. Plants we have seen of *E. valida* were erect and rounded up to 300mm tall growing on rocky ledges or outcrops or slightly taller in the ground in the lea of large rocks. The habit of *E. oresigena* is very unlike the other species being a large bushy shrub up to 1.5m tall growing in open rocky ground.

Erica jugicola E. G. H. Oliver & I. M. Oliver, sp. nov.

Habitus tegetiformis vel pulvinatus, folia quarterna, antherae oblongae calcaribus longis angustis poro parvo, semina superficiebus pluribus cellulis elongatis angustis sine poris. Figurae 4 & 5.

TYPE: SOUTH AFRICA, Western Cape, 3322BC, Oudtshoorn Dist., Blesberg, 2000m, 6 January 2001, *E.G.H. & I.M. Oliver 11762* (**NBG**, holotype; **BOL**, **BM**, **K**, **NY**, **PRE**).

Shrubs. compact, 300(–400) mm tall, often densely matted cushion or sprawling mat up to 600mm across. *Branches*: old main branches creeping and spreading along ground or over rock faces, new main branches erect 100–300 mm long and terminating in a florescence, occasional very short secondary branches 1–3 mm long terminating in a florescence; stems puberulous with a few retrorse long gland-tipped hairs

admixed, internodes very short. *Leaves* 3-nate, imbricate, subspreading, oblong to elliptic, rounded adaxially and abaxially, (3–)5 x 1.0–1.3mm, sparsely puberulous when young with some longer gland-tipped hairs abaxially, margins rounded, ciliate with a few long gland-tipped hairs, sulcus narrow, closed at base; petiole 1.7mm long, puberulous. *Inflorescence*: flowers 3 in 1 whorl at ends of main and secondary branches; pedicel 6–10mm long, dark red, puberulous and with spreading long sticky red gland-tipped hairs up to 0.9 mm long admixed; bract partially recaulescent $^{1}/_{8}$–$^{1}/_{5}$ way up pedicel, narrowly oblong, 2.5–3.0 x 0.7mm, pink with green apex, puberulous, ciliate with long sticky red gland-tipped hairs, sulcus narrow $^{1}/_{3}$ of bract; bracteoles 2, $^{1}/_{3}$–$^{2}/_{3}$ way up pedicel, otherwise same as bract. *Calyx* 4-partite, oblong to narrowly elliptic, ± 3.8 x 1.0mm, puberulous and with a few long red gland-tipped hairs abaxially and on margins, green to red with apex green, sulcus narrow, $^{1}/_{3}$ length of sepal. *Corolla* 4-lobed, narrowly ovoid-urceolate, 7–13 x 3–4mm, glabrous or occasionally with a few scattered hairs, pink; lobes erect to slightly spreading, rounded, entire, ± 1 x 2mm. *Stamens* 8, included or manifest, free; filaments linear, slightly bent at apex; anthers bilobed, dorsifixed near base, appendiculate, thecae erect, oblong, (1.7–)2.0 x 0.5mm in side view, dark brown, aculeate at base; appendages linear, ± 1.4 mm long sometimes broader towards theca, aculeate, pore small, ± $^{1}/_{6}$ as long as theca; pollen in tetrads. *Ovary* 4-locular, obovoid, ± 2.5 x 1.3mm, apically rounded, glabrous, green, with well developed nectaries around the base; ovules 30–40 per locule spreading to pendulous on placenta in upper half; style just exserted, terete, straight, glabrous, white; stigma truncate to slightly capitellate, dark red. *Fruit* a woody dehiscent capsule, valves splitting to base at 45° angle, septa equally on valves and columella; seeds irregular in outline with a several facetted surface, ±0.9 x 0.4mm, orange to dark brown; testa cells very slightly sunken, ± 50–100 x 12–15mm, anticlinal walls thin, shallowly undulate to straight, periclinal walls thin with no pits visible. Figures 4 & 5.

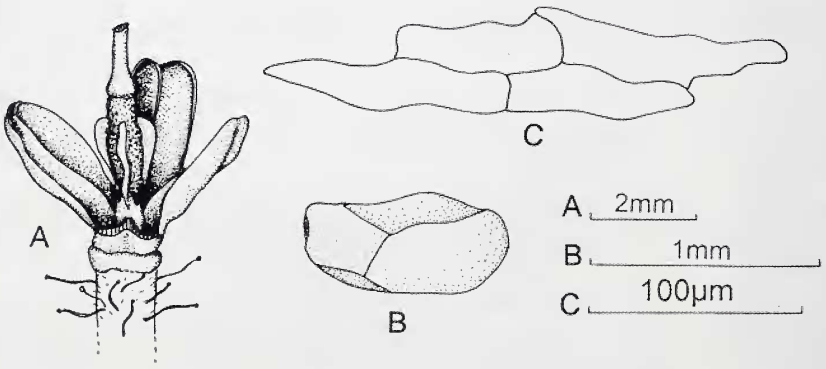


Fig. 4. *Erica jugicola*. A, open dehisced capsule with one valve removed; B, seed; C, testa cells. All drawn from *Oliver 11543*.

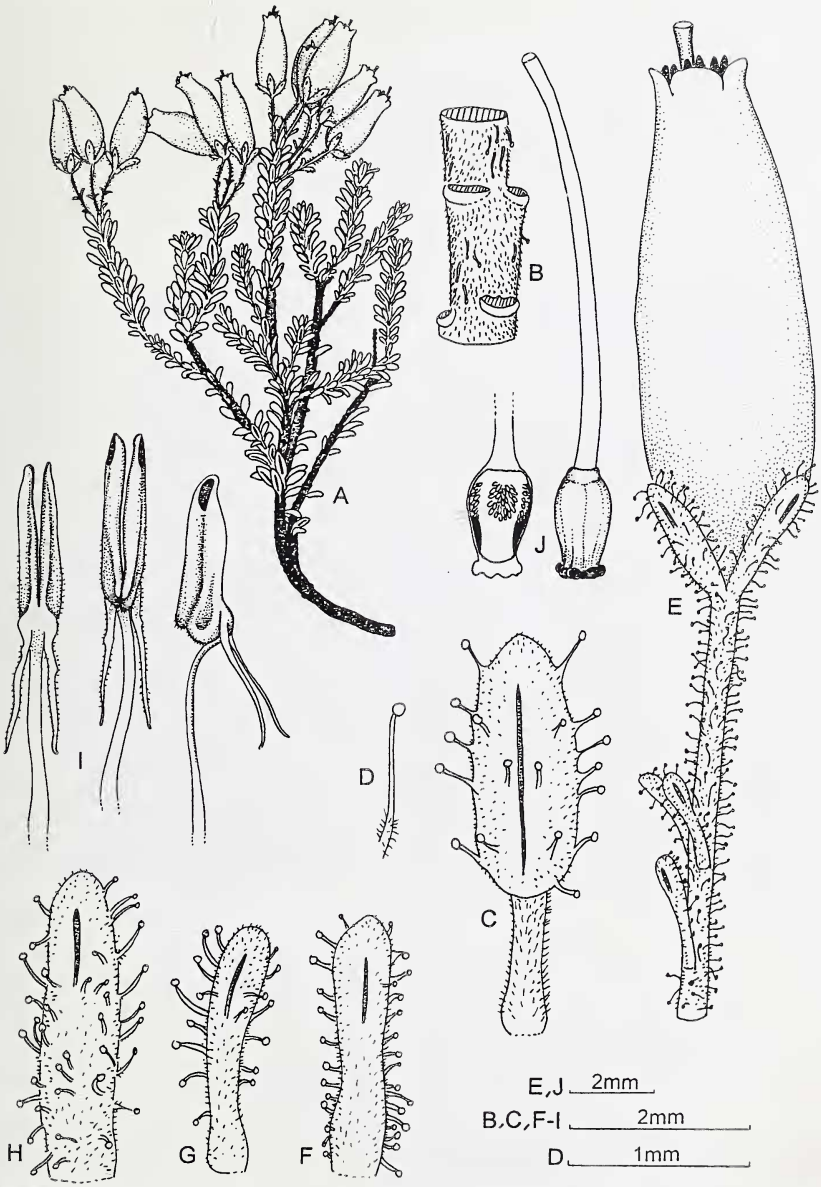


Fig. 5. *Erica jugicola*. A, flowering branch, natural size; B, stem; C, leaf; D, long hair from stem and pedicel; E, flower; F, bract; G, bracteole; H, sepal; I, anther, back, front & side views; J, gynoecium with, left, ovary opened laterally. All drawn from the type collection, *Oliver 11762*.

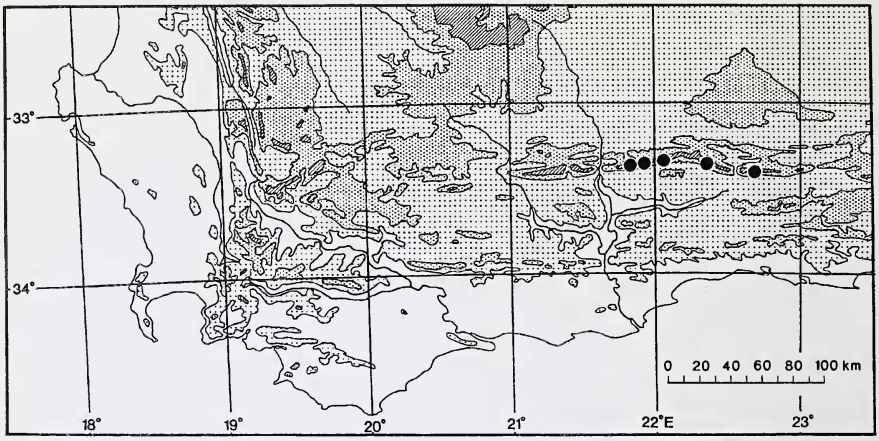


Fig. 6. Known distribution of *Erica jugicola*.

PARATYPES: WESTERN CAPE. — 3321: Swartberg between Waboomsberg and Kangoberg, 6000ft [1830m], (–BD), 3 December 1969, *Oliver 3048* (NBG); Swartberg, summit ridges between Kliphuisvlei & Plaatsberg, 6000–6500ft [1830–1980m], (–BD), 15 January 1954, *Taylor 1091A* (BOL). — 3322: Swartberg Pass, 6000ft [1830m], (–AC), 24 January 1941, *Esterhuysen 4562* (BOL); *ibid.*, Janaury 1935, *Stokoe 6858* (BOL, NBG); *ibid.*, January 1947, *Stokoe SAM62510* (SAM); *ibid.*, 6000 ft [1830m], December 1934, *Thorne SAM50003* (SAM) as *Stokoe SAM50003* (BOL); Spitzkop, 6500ft [1980m], (–AD), 25 January 1953, *Taylor 650* (NBG, PRE); *ibid.*, summit, February1932, *Thorne SAM50186* (BOL, SAM); Blesberg, main peak in ridge E of, 6600ft [2010m], (–BC), 6 January 1975, *Oliver 5623* (K, NBG, NY, MO, P, PRE, W); *ibid.*, neck just E of, 2000m, 13 July 2000 (fruiting), *E. G. H. & I. M. Oliver 11543* (NBG); *ibid.*, 6300ft [1920m], 12 January 1981, *Vlok 104* (NBG); *ibid.*, 6750ft [2060m], 18 December 1985, *Vlok 1320* (NBG, PRE). Figure 6.